



# **ANADARKO PETROLEUM CORP.**

**ANADARKO COLORADO NORTHERN ZONE NAD 83**

**WELD\_Reigle**

**REIGLE 18-4**

**REIGLE 18-4**

**Plan: REIGLE 18-4 (wp01)**

## **Standard Planning Report**

**30 September, 2010**





Project: ANADARKO COLORADO NORTHERN ZONE NAD 83  
 Site: WELD\_Reigle  
 Well: REIGLE 18-4  
 Wellbore: REIGLE 18-4  
 Section:  
 SHL:  
 Design: REIGLE 18-4 (wp01)  
 Latitude: 40° 10' 6.679 N  
 Longitude: 104° 40' 8.936 W  
 GL: 4861.0  
 KB: WELL @ 4861.0ft (Original Well Elev)



**Weatherford**



Azimuths to True North  
 Magnetic North: 8.85°

Magnetic Field  
 Strength: 53076.0nT  
 Dip Angle: 66.92°  
 Date: 9/30/2010  
 Model: BGGM2010

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4161.0	4416.0	PK
4513.0	4793.9	SX
6907.0	7201.3	NIO
7192.0	7486.3	CD
7279.0	7573.3	GH

#### CASING DETAILS

TVD	MD	Name	Size
700.0	700.0	9 5/8"	9-5/8

#### SECTION DETAILS

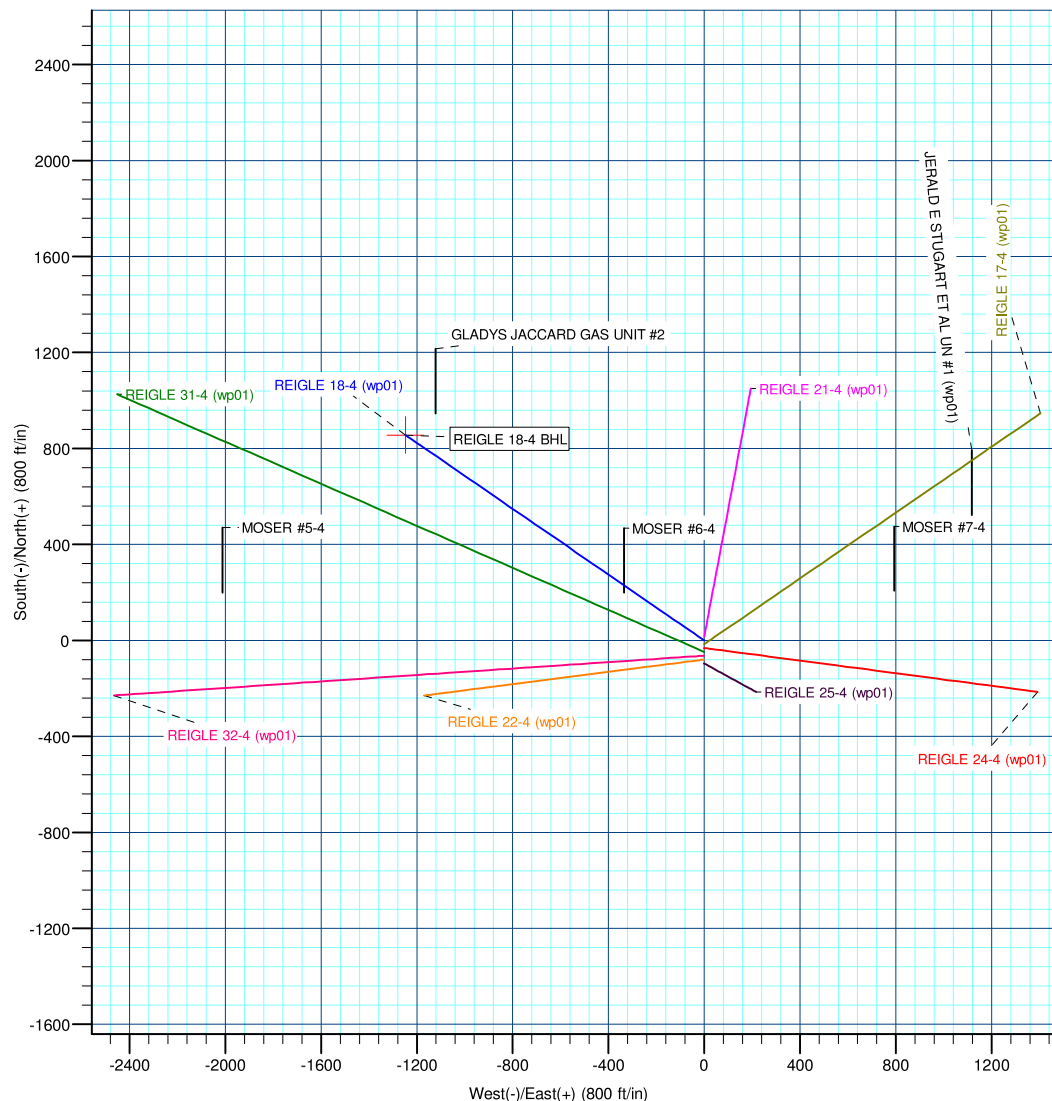
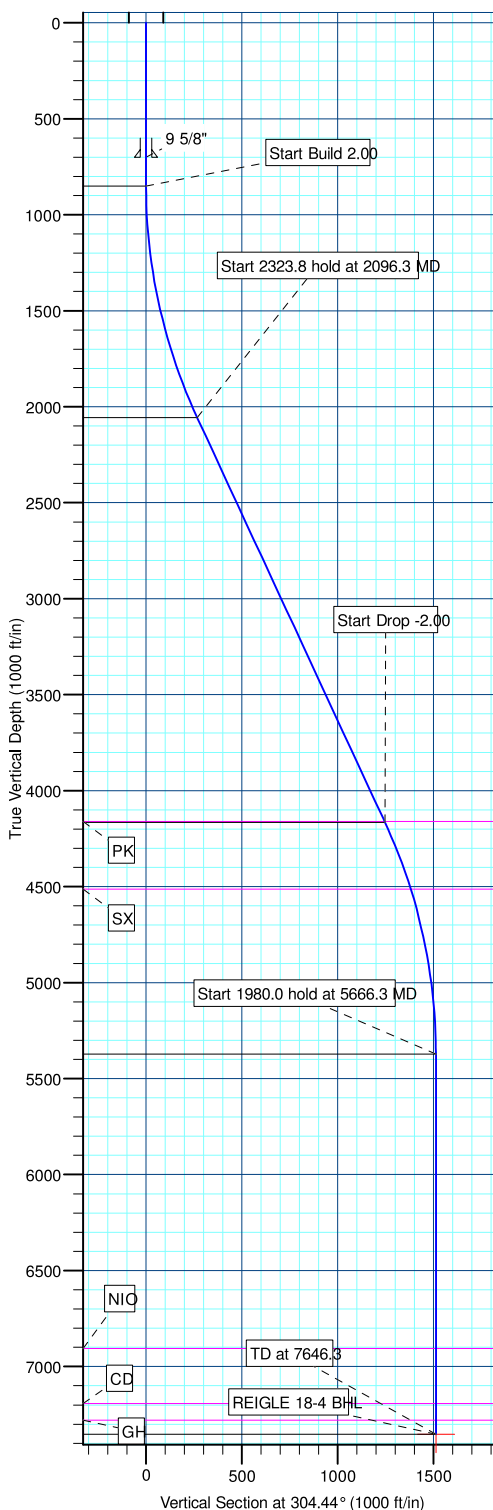
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
850.0	0.00	0.00	850.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2096.3	24.93	304.44	2057.3	150.9	-220.1	2.00	304.44	266.8	Start 2323.8 hold at 2096.3 MD
4420.0	24.93	304.44	4164.7	704.8	-1027.7	0.00	0.00	1246.2	Start Drop -2.00
5666.3	0.00	0.00	5372.0	855.7	-1247.8	2.00	180.00	1513.0	Start 1980.0 hold at 5666.3 MD
7646.3	0.00	0.00	7352.0	855.7	-1247.8	0.00	0.00	1513.0	TD at 7646.3

#### WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
REIGLE 18-4 BHL	7352.0	855.7	-1247.8	40° 10' 15.136 N	104° 40' 25.010 W	Point

#### WELL DETAILS: REIGLE 18-4

+N/-S	+E/-W	Northing	Ground Level: Easting	4861.0 Latitude	104° 40' 8.936 W Longitude	Slot
0.0	0.0	1305323.34	3232187.30	40° 10' 6.679 N		



Plan: REIGLE 18-4 (wp01) (REIGLE 18-4/REIGLE 18-4)

Created By: Jason Daguitera Date: 17:18, September 30 2010

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well REIGLE 18-4
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4861.0ft (Original Well Elev)
<b>Project:</b>	ANADARKO COLORADO NORTHERN ZONE NAD 83	<b>MD Reference:</b>	WELL @ 4861.0ft (Original Well Elev)
<b>Site:</b>	WELD_Reigle	<b>North Reference:</b>	True
<b>Well:</b>	REIGLE 18-4	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	REIGLE 18-4		
<b>Design:</b>	REIGLE 18-4 (wp01)		

<b>Project</b>	ANADARKO COLORADO NORTHERN ZONE NAD 83, ROCKIES, ROCKIES		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		WELD_Reigle				
Site Position:		Northing:	1,305,307.68ft	Latitude:	40° 10' 6.524 N	
From:	Lat/Long	Easting:	3,232,187.17ft	Longitude:	104° 40' 8.940 W	
Position Uncertainty:		0.0 ft	Slot Radius:	"	Grid Convergence:	0.54 °

Well	REIGLE 18-4					
Well Position	+N/-S	15.7 ft	Northing:	1,305,323.34 ft	Latitude:	40° 10' 6.679 N
	+E/-W	0.3 ft	Easting:	3,232,187.30 ft	Longitude:	104° 40' 8.936 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,861.0ft

<b>Wellbore</b>	REIGLE 18-4				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2010	9/30/2010	8.85	66.92	53,076

<b>Design</b>	REIGLE 18-4 (wp01)				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0	
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	304.44	

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
850.0	0.00	0.00	850.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,096.3	24.93	304.44	2,057.3	150.9	-220.1	2.00	2.00	0.00	304.44	
4,420.0	24.93	304.44	4,164.7	704.8	-1,027.7	0.00	0.00	0.00	0.00	
5,666.3	0.00	0.00	5,372.0	855.7	-1,247.8	2.00	-2.00	0.00	180.00	
7,646.3	0.00	0.00	7,352.0	855.7	-1,247.8	0.00	0.00	0.00	0.00	REIGLE 18-4 BHL

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well REIGLE 18-4
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4861.0ft (Original Well Elev)
<b>Project:</b>	ANADARKO COLORADO NORTHERN ZONE NAD 83	<b>MD Reference:</b>	WELL @ 4861.0ft (Original Well Elev)
<b>Site:</b>	WELD_Reigle	<b>North Reference:</b>	True
<b>Well:</b>	REIGLE 18-4	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	REIGLE 18-4		
<b>Design:</b>	REIGLE 18-4 (wp01)		

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>9 5/8"</b>									
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Start Build 2.00</b>									
850.0	0.00	0.00	850.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	1.00	304.44	900.0	0.2	-0.4	0.4	2.00	2.00	0.00
1,000.0	3.00	304.44	999.9	2.2	-3.2	3.9	2.00	2.00	0.00
1,100.0	5.00	304.44	1,099.7	6.2	-9.0	10.9	2.00	2.00	0.00
1,200.0	7.00	304.44	1,199.1	12.1	-17.6	21.4	2.00	2.00	0.00
1,300.0	9.00	304.44	1,298.2	19.9	-29.1	35.3	2.00	2.00	0.00
1,400.0	11.00	304.44	1,396.6	29.8	-43.4	52.6	2.00	2.00	0.00
1,500.0	13.00	304.44	1,494.4	41.5	-60.6	73.4	2.00	2.00	0.00
1,600.0	15.00	304.44	1,591.5	55.2	-80.5	97.6	2.00	2.00	0.00
1,700.0	17.00	304.44	1,687.6	70.8	-103.2	125.2	2.00	2.00	0.00
1,800.0	19.00	304.44	1,782.7	88.3	-128.7	156.1	2.00	2.00	0.00
1,900.0	21.00	304.44	1,876.6	107.6	-156.9	190.3	2.00	2.00	0.00
2,000.0	23.00	304.44	1,969.4	128.8	-187.8	227.7	2.00	2.00	0.00
<b>Start 2323.8 hold at 2096.3 MD</b>									
2,096.3	24.93	304.44	2,057.3	150.9	-220.1	266.8	2.00	2.00	0.00
2,100.0	24.93	304.44	2,060.7	151.8	-221.4	268.4	0.00	0.00	0.00
2,200.0	24.93	304.44	2,151.4	175.6	-256.1	310.5	0.00	0.00	0.00
2,300.0	24.93	304.44	2,242.1	199.5	-290.9	352.7	0.00	0.00	0.00
2,400.0	24.93	304.44	2,332.8	223.3	-325.6	394.8	0.00	0.00	0.00
2,500.0	24.93	304.44	2,423.5	247.2	-360.4	437.0	0.00	0.00	0.00
2,600.0	24.93	304.44	2,514.1	271.0	-395.1	479.1	0.00	0.00	0.00
2,700.0	24.93	304.44	2,604.8	294.8	-429.9	521.3	0.00	0.00	0.00
2,800.0	24.93	304.44	2,695.5	318.7	-464.6	563.4	0.00	0.00	0.00
2,900.0	24.93	304.44	2,786.2	342.5	-499.4	605.6	0.00	0.00	0.00
3,000.0	24.93	304.44	2,876.9	366.3	-534.2	647.7	0.00	0.00	0.00
3,100.0	24.93	304.44	2,967.6	390.2	-568.9	689.8	0.00	0.00	0.00
3,200.0	24.93	304.44	3,058.3	414.0	-603.7	732.0	0.00	0.00	0.00
3,300.0	24.93	304.44	3,148.9	437.8	-638.4	774.1	0.00	0.00	0.00
3,400.0	24.93	304.44	3,239.6	461.7	-673.2	816.3	0.00	0.00	0.00
3,500.0	24.93	304.44	3,330.3	485.5	-707.9	858.4	0.00	0.00	0.00
3,600.0	24.93	304.44	3,421.0	509.4	-742.7	900.6	0.00	0.00	0.00
3,700.0	24.93	304.44	3,511.7	533.2	-777.4	942.7	0.00	0.00	0.00
3,800.0	24.93	304.44	3,602.4	557.0	-812.2	984.9	0.00	0.00	0.00
3,900.0	24.93	304.44	3,693.1	580.9	-847.0	1,027.0	0.00	0.00	0.00
4,000.0	24.93	304.44	3,783.7	604.7	-881.7	1,069.1	0.00	0.00	0.00
4,100.0	24.93	304.44	3,874.4	628.5	-916.5	1,111.3	0.00	0.00	0.00
4,200.0	24.93	304.44	3,965.1	652.4	-951.2	1,153.4	0.00	0.00	0.00
4,300.0	24.93	304.44	4,055.8	676.2	-986.0	1,195.6	0.00	0.00	0.00
4,400.0	24.93	304.44	4,146.5	700.0	-1,020.7	1,237.7	0.00	0.00	0.00
<b>PK</b>									
4,416.0	24.93	304.44	4,161.0	703.9	-1,026.3	1,244.5	0.00	0.00	0.00
<b>Start Drop -2.00</b>									

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<b>Project:</b>	ANADARKO COLORADO NORTHERN ZONE NAD 83	<b>MD Reference:</b>	WELL @ 4861.0ft (Original Well Elev)
<b>Site:</b>	WELD_Reigle	<b>North Reference:</b>	True
<b>Well:</b>	REIGLE 18-4	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	REIGLE 18-4		
<b>Design:</b>	REIGLE 18-4 (wp01)		

**Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,420.0	24.93	304.44	4,164.7	704.8	-1,027.7	1,246.2	0.00	0.00	0.00
4,500.0	23.33	304.44	4,237.6	723.3	-1,054.6	1,278.8	2.00	-2.00	0.00
4,600.0	21.33	304.44	4,330.1	744.8	-1,086.0	1,316.8	2.00	-2.00	0.00
4,700.0	19.33	304.44	4,423.9	764.4	-1,114.6	1,351.6	2.00	-2.00	0.00
<b>SX</b>									
4,793.9	17.45	304.44	4,513.0	781.2	-1,139.0	1,381.2	2.00	-2.00	0.00
4,800.0	17.33	304.44	4,518.8	782.2	-1,140.5	1,383.0	2.00	-2.00	0.00
4,900.0	15.33	304.44	4,614.8	798.1	-1,163.7	1,411.1	2.00	-2.00	0.00
5,000.0	13.33	304.44	4,711.7	812.1	-1,184.1	1,435.9	2.00	-2.00	0.00
5,100.0	11.33	304.44	4,809.4	824.2	-1,201.7	1,457.2	2.00	-2.00	0.00
5,200.0	9.33	304.44	4,907.7	834.3	-1,216.5	1,475.1	2.00	-2.00	0.00
5,300.0	7.33	304.44	5,006.7	842.5	-1,228.5	1,489.6	2.00	-2.00	0.00
5,400.0	5.33	304.44	5,106.1	848.7	-1,237.6	1,500.6	2.00	-2.00	0.00
5,500.0	3.33	304.44	5,205.8	853.0	-1,243.8	1,508.2	2.00	-2.00	0.00
5,600.0	1.33	304.44	5,305.7	855.3	-1,247.1	1,512.2	2.00	-2.00	0.00
<b>Start 1980.0 hold at 5666.3 MD</b>									
5,666.3	0.00	0.00	5,372.0	855.7	-1,247.8	1,513.0	2.00	-2.00	0.00
5,700.0	0.00	0.00	5,405.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,505.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,605.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,705.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
6,100.0	0.00	0.00	5,805.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
6,200.0	0.00	0.00	5,905.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,005.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,105.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,205.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,305.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,405.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,505.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,605.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,705.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
7,100.0	0.00	0.00	6,805.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
7,200.0	0.00	0.00	6,905.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
<b>NIO</b>									
7,201.3	0.00	0.00	6,907.0	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,005.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,105.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
<b>CD</b>									
7,486.3	0.00	0.00	7,192.0	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,205.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
<b>GH</b>									
7,573.3	0.00	0.00	7,279.0	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,305.7	855.7	-1,247.8	1,513.0	0.00	0.00	0.00
<b>TD at 7646.3</b>									
7,646.3	0.00	0.00	7,352.0	855.7	-1,247.8	1,513.0	0.00	0.00	0.00

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well REIGLE 18-4
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 4861.0ft (Original Well Elev)
<b>Project:</b>	ANADARKO COLORADO NORTHERN ZONE NAD 83	<b>MD Reference:</b>	WELL @ 4861.0ft (Original Well Elev)
<b>Site:</b>	WELD_Reigle	<b>North Reference:</b>	True
<b>Well:</b>	REIGLE 18-4	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	REIGLE 18-4		
<b>Design:</b>	REIGLE 18-4 (wp01)		

#### Design Targets

##### Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
REIGLE 18-4 BHL	0.00	0.00	7,352.0	855.7	-1,247.8	1,306,167.35	3,230,931.59	40° 10' 15.136 N	104° 40' 25.010 W
- plan hits target center									
- Point									

#### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
700.0	700.0	9 5/8"	9-5/8	12-1/4

#### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,201.3	6,907.0	NIO			
4,416.0	4,161.0	PK			
7,573.3	7,279.0	GH			
4,793.9	4,513.0	SX			
7,486.3	7,192.0	CD			

#### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
850.0	850.0	0.0	0.0	Start Build 2.00
2,096.3	2,057.3	150.9	-220.1	Start 2323.8 hold at 2096.3 MD
4,420.0	4,164.7	704.8	-1,027.7	Start Drop -2.00
5,666.3	5,372.0	855.7	-1,247.8	Start 1980.0 hold at 5666.3 MD
7,646.3	7,352.0	855.7	-1,247.8	TD at 7646.3